

Message

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Sent: 9/4/2018 6:56:24 PM
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Subject: HEC-RAS modeling comments

This email is in followup to our meeting rearding the RCCP whitewater project. Below are some of the issues our office has initially identified with respect to the hydraulic model submitted. They don't represent a complete review, because the information submitted was far from complete.

1. The hydraulic models submitted were incomplete and lacking necessary information.
2. Plans with existing and proposed contours and the labeled HEC-RAS cross-sections shown on them should be provided. The project will need to be broken into multiple sections so that each portion has legible existing and proposed contours. If they're difficult to read, you may need to do one set with existing topo and one with proposed – both showing the HEC-RAS cross-sections.
3. Without item 2 above, it is unclear whether or not the cross-sections in the model will adequately capture the impacts of the proposed fill. (IE the cross-section locations pick up the crests of all proposed features).
4. Cannot run mixed flow regime due to missing boundary conditions. Had to run in subcritical which appears to be the default
5. Model includes only the 10, 50, 100, and 500-year profiles. The 2.5 year flow is needed and other flood profiles may be needed depending on the projects final design. The 500-year profile is not needed.
6. Methodology for selecting n values should be consistent for both existing and proposed, all calcs and justification should be provided, and values will be compared to standard methods.
7. Several cross-sections extend much too high – 50 feet above the BFE.
8. The proposed conditions (RCCP) geometry doesn't appear to increase channel roughness much.
9. Explanation of N values provided is insufficient. If the project is increasing roughness, they should go up. Notes indicate that n of 0.04 represents boulders and blocked obstruction in the channel for the "riffle" crest. N value of 0.04 for large boulders seems low, depending on size.
10. XS 212255.3 – same notes. RRO added this cross section and blocked obstruction. However, n is only 0.035 for this "boulder" section. Why use different n values for "boulder riffles"? Is the material spec'd here smaller? Need to provide material sizing and justify their choice for n.
11. No other blocked obstructions for in-channel. So, either cross-sections are drawn through the crests of all other proposed "riffle" structures OR they have not been captured.
12. Also, since fill varies in size across the proposed structures, shouldn't they be doing more by way of horizontal variation in n values across the cross section? Boulder weirs don't act the same as graded stone fill riffles or partially grouted stone chutes, all of which are included in the plans.
13. generally expansion/contraction ratios appear correct, and ineffective flow areas are where we'd expect them to be at crossings.
14. Datum adjustment needs clarification -exactly what was adjusted in which data sets?
15. Construction details and model for construction needed.
16. Comparison to FEMA model (likely removing effects from datum change)
17. Sealed certification of no harmful interference. Increases at more frequent, lesser floods will happen. City is working on easements. Easement language should specify that the city has authority to increase flooding between floodwalls or the owner should give explicit permission.

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